

## WEIGHTED COLLAR

[0001] This application claims the benefit of provisional application Serial No. 60/432,956, filed Dec. 12, 2002.

### STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] No federal sponsorship was obtained or used in the development of this invention.

### BACKGROUND OF THE INVENTION

[0003] This invention pertains to the design and use of articles of clothing meant for treatment of various health conditions by occupational therapists and others in the medical field.

[0004] Weighted vests have been in use for more than fifteen years to treat the symptoms of persons affected by a variety of disabilities. Observations made by those practicing in the field have shown that the wearing of weighted vests has produced a calming and organizing effect on the wearer. Body awareness, smoothness of coordination and fluidity of movements are also improved. The typical vest has weights sewn into the lower portion, or placed in pockets at the lower portion in order to allow for different amounts of weight.

[0005] In the past five to eight years, the use of weighted collars to accomplish similar effects has also gained popularity, and it appears that weighted collars have a greater effect than weighted vests in some persons. The typical collar has weights appended to the collar itself and the weights must be precisely placed to balance the collar.

[0006] A weighted collar is disclosed in publications by M.W. Sales and Service, Inc. under the trademark Velvasoft at the website <http://www.world-net.net/home/mwsales/Collar.html>. The collar requires precise placement of weights, results in uncomfortable concentration of weight, and has a garish appearance, making it unsuitable for those with appearance concerns.

[0007] Velvasoft also discloses weighted vests at the website <http://www.world-net.net/home/mwsales/Vest99.html>. Although more pleasing in appearance, the bottom mounted weights pull down on the shoulders, resulting in uncomfortable amounts of weight on the shoulders. Even with supplemental shoulder weights available, reducing the dragging-down effect, there is still an uncomfortable concentration of weight on the shoulders.

[0008] Angel Moon Creations discloses vests similar to Velvasoft at the website <http://www.angel-moon-creations.com/page3.html>, such vests having pockets for weights higher up on the vest, but still suffering from the problem revealed in the Velvasoft vests, namely concentration of weight on the shoulders.

## SUMMARY OF THE INVENTION

[0009] In operation one uses the invention either permanently attached and integral to a vest or other article of clothing, or as an independent item worn in addition to other garments. The collar is designed to apply a gentle pressure down through the skeletal system, which gives proprioceptive input into the body through the shoulders, sternum, spine and rib cage. The device is worn around the neck, or on the body in the case of a vest or other attached implementation, and is used as a therapeutic tool by occupational therapists or other medical providers to improve posture, body awareness,

attention, and motor planning, among others. It can also be used to treat tremors, ataxia, excessive fidgeting, and to provide a calming affect. There are several embodiments of the invention, the only critical features being a flexible body, the containment of the weights inside the body, and some manner to restrict the weights from shifting. The collar can be round, rectangular, oval, or any other appealing shape. The preferred embodiment of the device includes a tail, and in its collar-only form can be worn with the tail over the sternum or the spine, depending on the preference of the wearer. In addition to therapy patients, this type of device is commonly used by educational personnel and parents to help children who are exhibiting the previously listed problems.

[0010] Another implementation of the invention is affixing the collar itself to a vest. Such an implementation has the added benefits of improved appearance, flexibility in adding more weight than with the collar alone, increased comfort for active users, and less likelihood of removal of the device by children.

[0011] The invention has several improvements over existing designs. First, the invention has the weight evenly distributed over a larger surface, and resting on the clavicles, spine, upper rib cage and sternum, in addition to the shoulders. The invention lets the weight conform to the body, which helps to evenly distribute the weight instead of having it concentrated in spots. Previous implementations of vests have the weight carried in the lower portion of the vest, which causes the weight to pull down on the shoulders in a concentrated fashion. Rigid collars have similar problems, since the weight is again concentrated in a small area where the collar makes contact with the wearer's body. The invention is much more comfortable and less fatiguing to the wearer than previous designs, which also allows longer usage.

[0012] Secondly, by having the weight applied down through the skeletal system, less weight is necessary to achieve the same treatment results as other weighted vests having the weight in the lower portion of the vest, or rigid collars which pull down on the shoulders.

[0013] Third, the invention has a more pleasing appearance than other designs. Vests are more stylish than current designs and the fabric can be customized to the wearer's individual taste, which improves compliance and cooperation with wearing. Collars can be worn on top of or under clothing and can also be of customized material, helping to improve compliance with wearing guidelines for older and younger children.

[0014] Fourth, an improvement over contemporary collars is that the actual weight conforms to the users body in the disclosed invention, instead of just the fabric that supports the weight. In addition, on conventional collars the weight still hangs from the neck and shoulders rather than resting on the skeletal structure. Also, the weight is more evenly distributed without having to make precise placement of hanging weights.

[0015] These and other objects of the invention will become clear to one of ordinary skill in the art after reviewing the disclosure of the invention that follows.

#### BRIEF DESCRIPTION OF THE DRAWINGS

[0016] FIG. 1 is a top view of one implementation of the collar-only form of the invention.

[0017] FIG. 2A is a front view of one implementation of the vest-form of the invention, with the tail positioned to the rear.

[0018] FIG. 2B is a rear view of one implementation of the vest-form of the invention, with the tail positioned to the rear.

## DETAILED DESCRIPTION OF THE INVENTION

[0019] FIG. 1 is a top view looking down on one embodiment of the collar-only form of the invention. The invention is composed of a top piece [11] of fabric and a bottom piece [12] of fabric, each identical with an external shape (outer perimeter [18]), in the preferred embodiment similar to the outline of a light bulb. The fabric can be any heavyweight, non-stretch material, or a lightweight material with interfacing to provide strength. Experimentation has revealed that an ideal, but not necessary material is cotton or a cotton-blend. A roughly circular hole is removed from the middle of each piece [11,12] of the fabric to make an inner circumference [14], which is an opening for the completed invention to easily wrap around the neck of the user. The preferred embodiment of the shape should then appear like a donut with a stubby tail [13]. In the preferred embodiment, a radial cut [15] is made from the inner circumference [14] to the outer perimeter [18] of both pieces [11, 12] of fabric in an identical location, typically, but not necessarily, directly opposite the tail [13].

[0020] The top piece [11] and bottom piece [12] are affixed to each other around their outer perimeter [18], typically by sewing, but alternatively by fusible material or other means. In the preferred embodiment, the fabric of the tail [13] is then sewn in a number of roughly radial, roughly parallel rows (quilted), from the inner circumference [14] to the outer perimeter [18], beginning with a row [16] aligned with the outer edge of the tail. There should be approximately three to five channels [17] spanning the width of the tail. Each channel [17] should be approximately one-half to three-quarter inches in width for optimal results.

[0021] The top piece [11] and bottom piece [12] are then affixed to each other along the inner circumference [14], except for the portion opposite the tail [13] when using the preferred embodiment. The top piece [11] and bottom piece [12] of the invention are then sewn in a number of roughly circumferential, roughly parallel rows (quilted). In the preferred embodiment, the quilted rows extend from the radial cut [15] to the outermost radial row [16] sewn in the tail [13]. There should be approximately three to five rings [19] thus created. Each ring [19] should be approximately one-half to three-quarter inches in width for optimal results.

[0022] In the preferred embodiment, the channels [17] between each row of the tail [13], and the rings [19] around the main portion of the collar are then filled with small weights, such as beebees, shot, ball bearings, or other similar devices, which preserve the conformability of the fabric pieces [11, 12]. The preferred, but not necessary material composition of the weight devices is zinc or stainless steel to prevent corrosion when the invention is washed or cleaned. The use of sand as a weight device is not preferred because it does not provide sufficient density and tends to leach out of the invention, irritating the user. The use of small tubes of fabric or other light, flexible material to encapsulate the weights makes handling and removal and replacement of the weights easier, thus providing adjustability and easier cleaning of the invention. The total weight of the collar may be as little as one pound or as much as five pounds, and is tailored to the individual needs of the user as determined by the therapist, and generally is from two to three pounds.

[0023] The weight devices are contained in the collar by affixing the top piece [11] and bottom piece [12] together at the remaining openings. The first remaining

opening is along the inner circumference [14] opposite the tail [13]. The second and third remaining openings are on either side of the radial cut [15]. These remaining openings may be sealed by means of snaps, Velcro or other temporary affixing means to allow the weights to be changed or adjusted, or the openings may be permanently affixed. Finally, in the preferred embodiment, one or more closure devices [20], such as clasps, hooks, buttons, Velcro, etc., are affixed along the radial cut [15] to secure the device around the user's neck.

[0024] Another implementation of the invention is leaving the inner ring [19] empty, or filled with padding rather than weight devices, to improve the comfort of the user.

[0025] Another implementation of the invention is affixing the collar itself to a vest as shown in FIG 2A and FIG 2B.

[0026] An alternative embodiment includes a closed collar with no radial cut [15], worn by being placed over the wearer's head.

[0027] An alternative embodiment includes radial segments, rather than concentric rings, to restrict movement of the weights.

[0028] Another alternative embodiment includes a checkerboard or compartmentalized means to restrict movement of the weights, although this embodiment is not preferred since it makes adjustment of the weights very difficult.

[0029] An alternative embodiment includes no tail [13], or more than one tail.

[0030] While a preferred embodiment of the invention has been described, variations and modifications would be apparent to one of ordinary skill in the art without